

WHAT IS CLAIMED IS:

1. Internal-combustion engine having four cylinders in a V-arrangement, having a crankshaft and having a first balancing shaft for reducing the free inertial forces of the second order which is arranged below and parallel to the crankshaft,

wherein a second balancing shaft is provided in a point of intersection of the cylinder Vs above the crankshaft, and

wherein the rotation center points of the first balancing shaft, of the second balancing shaft and of the crankshaft are situated on a perpendicular axis of symmetry which extends through the point of intersection.

2. Internal-combustion engine having balancing shafts according to Claim 1, wherein the second balancing shaft is arranged in a main lubricant duct for supplying main bearings of the crankshaft and spraying nozzles for the piston cooling with lubricant.

3. Internal-combustion engine having balancing shafts according to Claim 2, wherein the second balancing shaft has a lubricant feeding device, a guiding duct, outlet openings and eccentric weights.

4. Internal-combustion engine having balancing shafts according to Claim 3, wherein the second balancing shaft has partial milled-out sections on the circumference, and a tube is arranged as a guiding duct in the interior.

5. Internal-combustion engine having balancing shafts according to Claim 1, wherein the first balancing shaft is disposed on a covering plate of the internal-combustion engine.

6. Internal-combustion engine having balancing shafts according to Claim 5, wherein the first balancing shaft encloses a lubricant channel and has eccentric weights and outlet openings for feeding lubricant from the channel to bearings supporting the first balancing shaft.

7. Internal-combustion engine having balancing shafts according to Claim 6, wherein the eccentric weights are formed by milled out sections on circumferential portions of the first balancing shaft.

8. A balancing assembly for a combustion engine having a crankshaft, and four cylinders disposed in a V-arrangement, said balancing assembly comprising:

    a first balancing shaft disposed in use below the crankshaft, and

    a second balancing shaft disposed in use above the crankshaft,

    wherein rotational axes of said first and second balancing shafts are disposed in a plane which bisects the V-shape of the cylinders.

9. A balancing assembly according to Claim 8, wherein a main engine lubricant duct extends inside said second balancing shaft.

10. A balancing assembly according to Claim 8, wherein a lubricant duct extends inside the first balancing shaft for lubricating bearings supporting the first balancing shaft.

11. A combustion engine having a crankshaft, four cylinders disposed in a V-arrangement, and a balancing assembly, said balancing assembly comprising:

    a first balancing shaft disposed in use below the crankshaft, and

    a second balancing shaft disposed in use above the crankshaft,

    wherein rotational axes of said first and second balancing shafts are disposed in a plane which bisects the V-shape of the cylinders.

12. An engine according to Claim 11, wherein a main engine lubricant duct extends inside said second balancing shaft.

13. An engine according to Claim 11, wherein a lubricant duct extends inside the first balancing shaft for lubricating bearings supporting the first balancing shaft.